

ABSTRACT

A method and apparatus for recording or reproducing data in which high performance encoding and a high efficiency decoding are realized to lower the decoding error rate. A magnetic recording and/or reproducing apparatus 50 includes, in a recording system, a modulation encoder 52 for modulation encoding input data in a predetermined fashion and an interleaver 53 for interleaving data supplied from the modulation encoder 52 to re-array the data sequence. The magnetic recording and/or reproducing apparatus 50 also includes, in a reproducing system, a first deinterleaver for interleaving the input data for re-arraying the data sequence so that the bit sequence of data re-arrayed by the interleaver 53 will be restored to its original bit sequence, a modulation SISO decoder for modulation decoding data supplied from the first deinterleaver and a second deinterleaver for interleaving data corresponding to a difference value between data output by the modulation SISO decoder and data output by the first deinterleaver to re-array the data sequence of the difference data.